J. R. Hall Collection, 1967-1990
1.3 cubic feet
JPL 178

Biography

Justin R. Hall was born about 1928. At the age of 24, he served in the U.S. Army as a member of the First Guided Missile Battalion that the Army set up in 1952. At that time, his assigned location was White Sands Proving Grounds, New Mexico. Later, he worked for the Department of the Army, Ordinance Corps, where he worked on the Corporal missile developed at JPL. After the Army, working as a civilian, he was appointed as the Sergeant missile evaluation manager at White Sands, beginning his work with JPL.

In August of 1959, he was employed by JPL as a cognizant engineer at the Deep Space Network. In 1962, he was assigned to do design work for Ranger 6, 7 and 8 on the spacecraft video system where he modified the parametric amplifier to receive video images from the Moon. After 25 years of service with JPL, Hall worked as manager in Section 333, Radio Frequency and Microwave Subsystems.

He became a member of the JPL Amateur Radio Club, WB6PTX. By October of 1994, he retired from JPL after 35 years of service, as manager in Section 410, Telemetry Data Acquisition Planning. He died in November of 1998.

Provenance

Bruce Crow, Section 331, Communication System Research, transferred the materials to the Archives in 1990 as Accession 90-40.

Collection Arrangement and Description

The collection includes files from 1967 through 1990 on various descriptions of systems and subsystems, design analysis of performance, parameters, interfaces and test requirements. These activities included all data systems, microwave and radio science subsystems. Also, there are files on radiometric tracking and navigation, the Mark IVA command subsystem, telemetry, monitor and control subsystems, surveillance stations, test and training support subsystems, microprocessor standards and equipment standards, system block diagrams, the Mark IVA receiver-exciter subsystems, S/X band microwave subsystems and VLBI operation. (Very Long Base Interferometer).

Also described within the collection is the Deep Space Communication Complex VLBI system, which is an assemblage of subsystems at a Front-End Area (FEA) and Signal Processing Center (SPC). This system did define the design at each complex to form an instrument for receiving VLBI data in conjunction with other similar FEA's and SPC's. These instruments, together with elements involved in the monitoring and control and data processing functions, made up the DSN VLBI System. The elements external to the DSCC were located at JPL; they were portions of the Network Operations Control Center (NOCC) and VLBI processing area.

Also, within the collection, there is documentation on the Deep Space Network systems requirements, RFI support task plans for electromagnetic compatibility, formula computations on frequency and timing systems and the station interface engineering.

The collection is arranged as found by subject. This subject arrangement follows an alphabetic sequence. The subject titles were retained as file folder titles.

Conservation/Preservation

Standard preparations of documents for long term storage were completed.

Separation Statement

No material was separated from the collection.

File Folder List

File titles were retained as originally found.

Box 1

Fld 1 B.1 Tracking (Radiometric) & Navigation, June 1, 1982 September 1987.

Fld 2 B.2 Mark IV A Command Subsystem, December 1, 1982.

Fld 3 B.3 Telemetry, January 10, 1975.

Fld 4 B.4 Monitor and Control Subsystem, November 21, 1978 - September 1988.

Fld 5 B.5 Test and Training Support Subsystems, December 11, 1981.

Fld 6 B.6 Radio Science Subsystems, October 1, 1984.

Fld 7 B.7 Surveillance Stations, September 21, 1977.

Fld 8 B.9 System Block Diagram, June 2, 1978.

Fld 9 B.11 Review of ECO Preparation, Screening Procedures, January 7, 1985.

Fld 10 B.12 Mark IV A DSCC Antenna Microwave Subsystems, September 29, 1982.

Fld 11 C.1 S/X Band Microwave Subsystem, December 15, 1982. Part 1 of 5.

Fld 12 Part 2 of 5.

Fld 13 Part 3 of 5.

Box 2

Fld 14 Part 4 of 5.

Fld 15 Part 5 of 5.

Fld 16 C.3 K W Transmitters, September 2, 1981.

Fld 17 C.4 Hi-Power Transmitters, March 31, 1983. Part 1 of 3.

Fld 18 Part 2 of 3.

Fld 19 Part 3 of 3.

Fld 20 C.6 Subcarrier Demodulator, August 9, 1982.

Fld 21 C.7 Traveling Wave Masers and Low Noise Amplifiers, March 31, 1983. Part 1 of 2.

Fld 22 Part 2 of 2.

Box 3

Fld 23 C.8 Frequency and Timing, July 18, 1983.

Fld 24 C.9 Block III / IV NCP Costing, September 2, 1981. Part 1 of 2.

Fld 25 Part 2 of 2.

Fld 26 C.10 Mark IV A Receiver-Exciter Subsystem, October 5, 1983. Part 1 of 2.

Fld 27 Part 2 of 2.

Fld 28 C.11 Station Interface Engineering (ICE), September 27, 1976.

Fld 29 C.12 RFI and EMI, April 1, 1974. Part 1 of 3.

Fld 30 Part 2 of 3.

Fld 31 Part 3 of 3.

Box 4

Fld 32 C.13 VLBI Operation, January 24, 1984.

Fld 33 C.14 Systems and Subsystems Cables, January 13, 1983.

Fld 34 C.16 Microprocessor Standards and Equipment Standards, November 8, 1984.

Fld 35 C.17 Diagnostics for MK IV Equipment, August 25, 1983.

Fld 36 Robert A. Leech (Procurements), May 8, 1974.

Catalog Description

Justin R. Hall, Collection, 1967-1990.

1.3 c.f. in 36 folders

Includes documentation on the Deep Space Network Systems requirements and various descriptions of systems and subsystems, design analysis of performance, parameters, and subsystem configuration interface test procedures during Hall's career.

The files are arranged in a subject and alphabetic sequence between 1967-1990 supporting various guidelines, equipment standards and functional software implementation and practices conducted at the Deep Space Communication Complex.

Finding aid is available in the Archives

Tracings
Jet Propulsion Laboratory - History
Hall, J. R., 1928 - 1998
Deep Space Network - systems design
Deep Space Communication Complex - History

Accession 90-40